Research Management Division, Alberta Environment: Report Preparation Manual

Alberta

91-03053/

RESEARCH MANAGEMENT DIVISION LOGO

The logo represents the interdisciplinary and holistic nature of the Division's environmental research programs. Each of the five sections of the symbol represent comprehensive programs on air, water, land, humans and their constant interaction. The sections converge to form a cohesive chain, characteristic of an effective research organization. This cohesive bonding makes the sections blossom into the environment in the form of a flower — an Albertan wild rose.

RESEARCH MANAGEMENT DIVISION

ALBERTA ENVIRONMENT:

REPORT PREPARATION MANUAL

November 1982

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1. INTRODUCTION

This manual is designed to provide guidelines to the author or researcher for the preparation of Research Management Division (RMD), Alberta Environment reports. It is important that reports issued by the RMD conform to uniformly high standards of scientific content, literary coherence, format, and consistency. The reader is the ultimate beneficiary of clear, concise reporting.

The basic form and style required by RMD for publications are described in this manual. The Council of Biology Editors Style Manual, 4th edition (1978) is the standard reference guide. It should be consulted for material not covered in the following sections. The Canadian Metric Practice Guide (1976) contains full information relevant to Canadian metric use and standardization.

Reports submitted for publication must conform to RMD standard format and editorial style, in addition to actual content.

2. ORGANIZATION OF MANUSCRIPT

The following components are included in each RMD report (except where the item is not applicable to a specific publication). The author is not responsible for preparing items 2.1 to 2.4, and 2.20.

2.1 COVERING TITLE

The covering title is prepared by the Publications Office, and is the first page of the document.

2.1 CITATION

The citation (i.e., complete bibliographic information) regarding the publication is placed on the next page, as is availability information. This page is prepared by the Publications Office.

2.3 LETTER OF TRANSMITTAL

This item is included only in AOSERP reports. It is prepared by the Publications Office, and is placed after the Citation.

2.4 DECLARATION

The declaration is prepared by the Publications Office after the report has been approved, and is inserted after the covering title page, or the Letter of Transmittal if the publication is an AOSERP report.

2.5 AUTHOR'S TITLE PAGE

Information included on the title page consists of the project title, author(s), affiliation of author(s), indication that the project was done for the Research Management Division, project number, and date. A sample author's title page is included as Figure 1. It follows the Declaration.

2.6 TABLE OF CONTENTS

The table of contents is a complete listing of the material in the publication. It includes all headings and subheadings of the

A STUDY OF THE HYDROLOGIC REGIME OF THE BATTLE RIVER BASIN

by

W.J. STOLTE

R. HERRINGTON

Department of Civil Engineering
University of Saskatchewan

for

Research Management Division
Alberta Environment

RMD 80/4

December 1980

Figure 1. Example of author's title page.

text and appendices, together with the appropriate page numbers. This page immediately follows the Author's Title page. Section 3.6 explains RMD recommended format for the Table of Contents page.

2.7 LIST OF TABLES

The separate listing of tables includes the first sentence of each table heading and the page number of the table. The List of Tables page follows the Table of Contents. Refer to Section 3.7 for recommended format.

2.8 LIST OF FIGURES

This list includes the first sentence of each figure caption, and the page number of the figure. All maps, photos, graphs, and diagrams are numbered inclusively. The List of Figures is placed in the publication after the List of Tables. Section 3.7 explains the format for both the List of Tables and the List of Figures.

2.9 ABSTRACT

The abstract is a summary of the report content and conclusions. It should not exceed one page in length, and is included after the List of Figures.

2.10 ACKNOWLEDGEMENTS

The Acknowledgements page follows the Abstract. Credit is to be given in the Acknowledgements for grants-in-aid, illustrative material that has been borrowed, and the assistance of persons who have helped in the research and/or writing of the article. The Research Management Division, Alberta Environment is to be acknowledged in all present and subsequent reports, theses, presentations, etc.

2.11 INTRODUCTION

The introduction is the first segment of the main report body. It includes the study objectives, the general nature and scope

of the study, general relationship to oil sands development related concerns (if applicable), approach(es) used in the study, and a resume of state-of-the-art knowledge relevant to the project.

2.12 STUDY AREA(S)

A map indicating the study area(s) should be included when appropriate. A base map of the AOSERP study area is available from the Publications Office, and should be included in all reports having relevance to this area (Figure 2). Also included should be a concise description of the relevant geographic and/or thematic aspects of the study area(s) and of their representativeness for the entire region under consideration.

2.13 MATERIALS AND METHODS

This section of the report describes the techniques, equipment, data analysis, phasing of the work, and any other facts pertinent to the materials and methods used in the course of the project.

2.14 RESULTS

The project results should be arranged under appropriate sub-headings. Section 3.5 outlines the decimal numbering used for RMD reports. Lengthy descriptive material and data summaries should appear as appendices or in associated reports.

2.15 DISCUSSION

The discussion section includes information relevant to the analysis and interpretation of results, extrapolation of data, and the relationship of project results to those of previous or similar studies.

2.16 CONCLUSIONS

The conclusions should be related to the objectives of the study. They should be concisely listed.

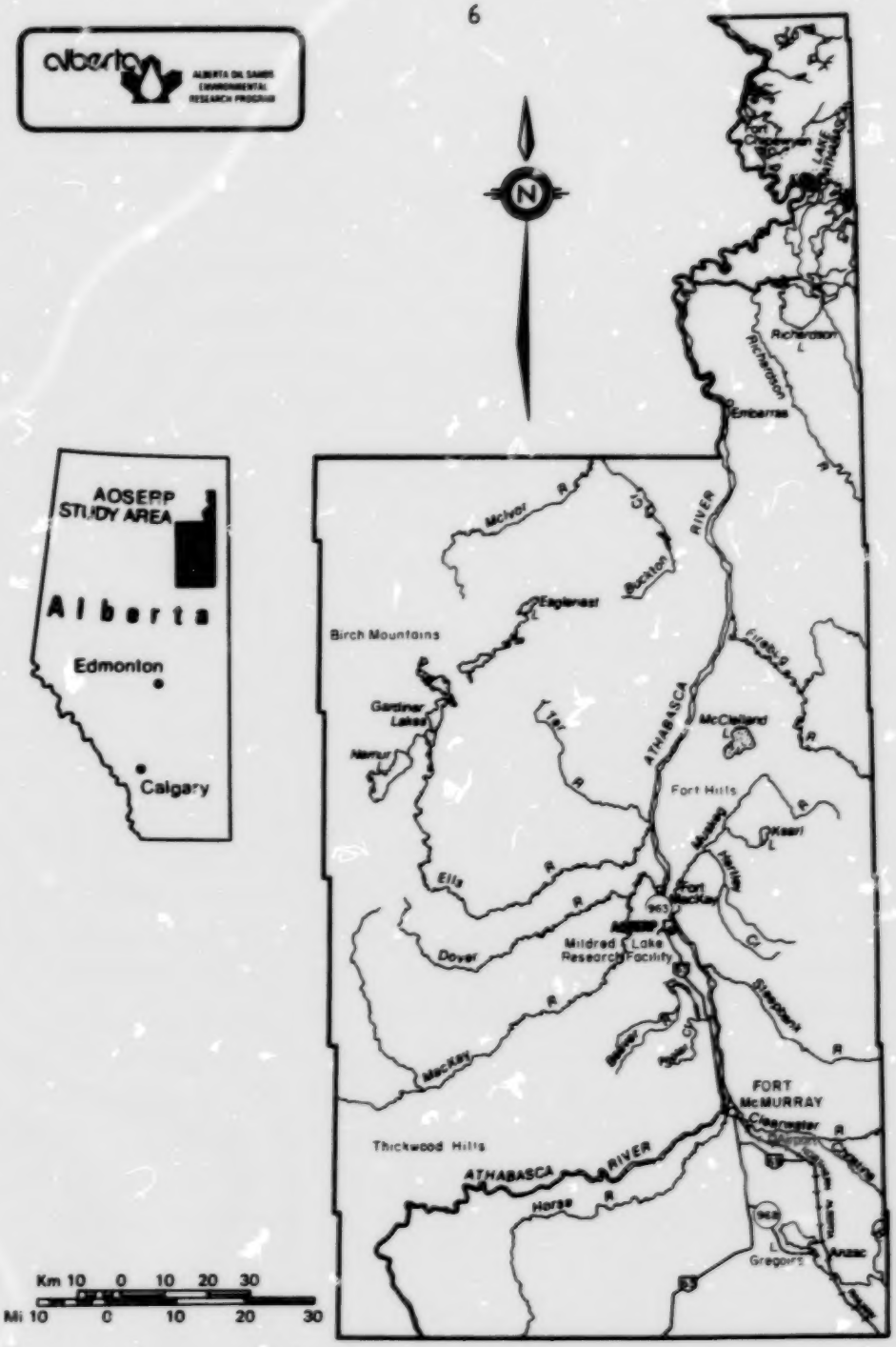


Figure 2. The AOSERP study area.

2.17 RECOMMENDATIONS

The report recommendations should be related to the conclusions. They should consist of two separate, clearly identified parts, dealing with: (1) matters of general scientific importance; and (if applicable) (2) matters relating specifically to oil sands developments, including the identification of sensitive and critical areas (note that recommendations shall not include provincial or federal government policy).

2.18 REFERENCES CITED

This section consists of a complete list of all publications cited in the report. Section 3.9 specifies the required elements and format to be used in listing references.

2.19 APPENDICES

Lengthy tables, data summaries, maps, foldouts, and descriptive material should be included in the report as appendices. Section 3.10 further explains appendix form.

2.20 LIST OF AOSERP REPORTS

A list of AOSERP reports is included at the end of each published AOSERP report, for the readers' benefit. The list is prepared and included by the Publications Office.

3. REPORT FORMAT

3.1 TYPE STYLE

Reports may be produced either by typewriter or by word processor, but must conform to the following specifications.

3.1.1 Typewritten Material

Research Management Division reports are to be typed on IBM Selectric equipment, using black carbon ribbon. The 12-pitch Artisan type font is to be used. Italic type is used only for taxonomic names (genus and species) and some foreign language terms. See Section 4.1.3.1 for further details regarding taxonomic terminology, and Section 4.1.3.2 for use of italics in foreign language terms.

3.1.2 Word-processed Material

Electronic word-processing equipment may be used to facilitate report preparation. If the standard 12-pitch Artisan type font is not available for such equipment, the following are acceptable: (1) 12-pitch Letter Gothic, or (2) 10-pitch Artisan printed at 12-pitch setting. The word processor should be set at the darkest setting possible to ensure clean, clear copies.

3.2 PAPER SIZE AND WEIGHT

Reports should be submitted on heavy, white, bond paper (20 lb.). Standard size to be used is 21.5 cm by 28.0 cm.

3.3 MARGINS, LINE SPACING, AND INDENTATION

3.3.1 Margins

Margins of 3.5 cm width are to be left blank on both the left and the right sides. Top and bottom margins are to measure 2.5 cm. A sample page is shown as Figure 3.

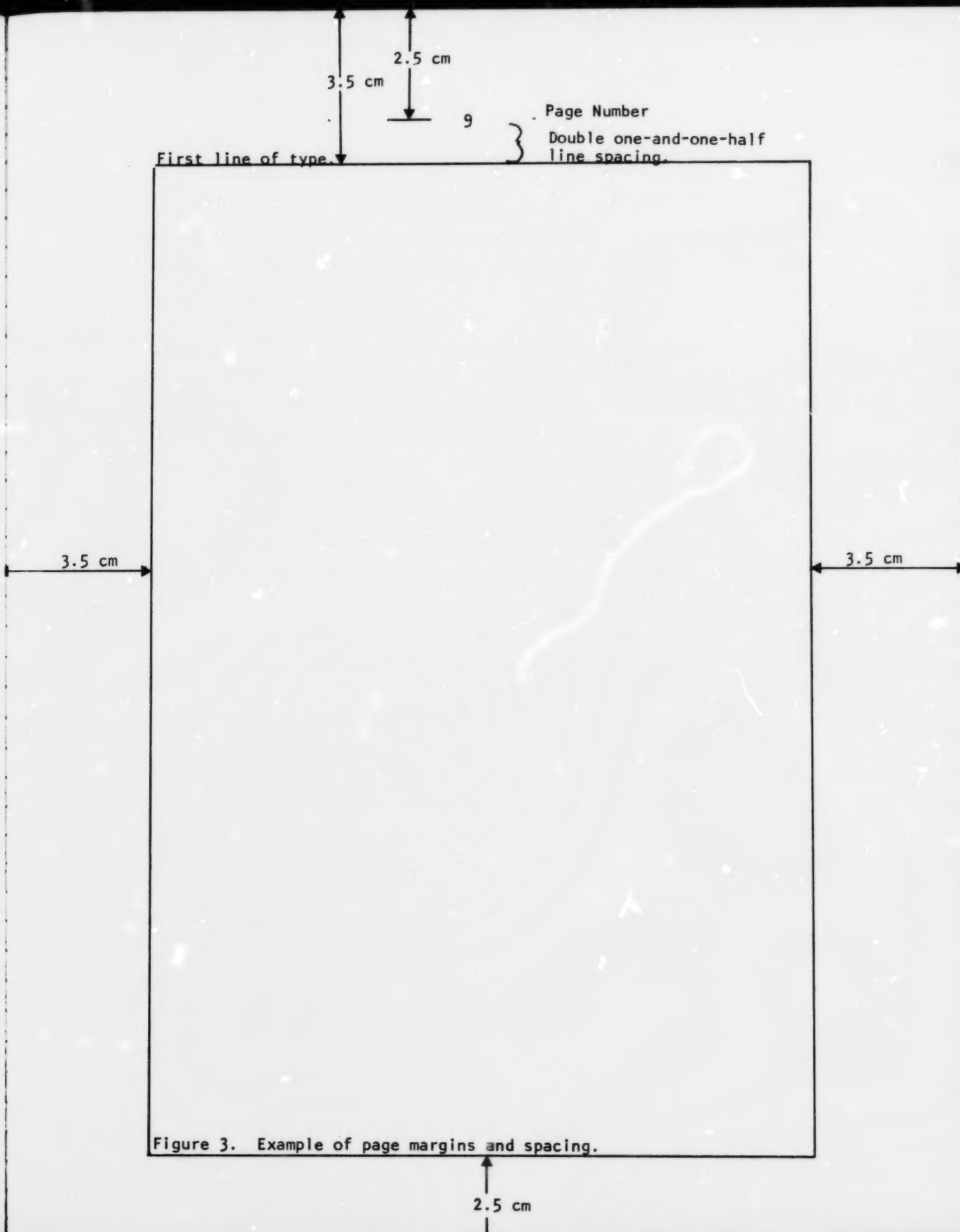


Figure 3. Example of page margins and spacing.

3.3.2 Spacing

3.3.2.1 Text line spacing. Spacing between lines of text and between paragraphs is one- and one-half lines. This format produces 35 lines of typescript per page.

3.3.2.2 Headings and subheadings. Three blank lines are left before all headings (that is, twice the normal one- and one-half spacing). Consecutive headings and subheadings are also separated by three blank lines. The first line of text is separated from its heading or subheading by one- and one-half spaces.

3.3.2.3 Paragraph and heading indentations. Indent the first word of each paragraph 10 spaces; in other words, the first letter is in the 11th space of the line. This spacing permits correct alignment of headings and paragraph indentations.

Fourth level and subsequent subheadings are run into the text. The first word of those subheadings is considered the first word of the paragraph for spacing purposes.

3.3.3 References Cited

3.3.3.1 Reference spacing. A single (not one- and one-half line) space separates lines in a reference entry. Individual references are separated by a double space.

3.3.3.2 Reference indentation. The first word of a reference entry is flush against the left margin. Second and subsequent lines are indented 10 spaces; that is, the first character is typed in the 11th position.

3.4 PAGINATION

3.4.1 Sequence

Each page of the report is numbered. The body of the report is numbered consecutively with Arabic numerals, beginning with Section 1. Introduction, and including all tables, figures, and appendices.

The front matter (all pages preceding the introduction) are numbered with lowercase Roman numerals. The first typed page number is that of the Table of Contents page. These numbers are assigned by the Publications Office.

3.4.2 Location of Page Numbers

Page numbers are centred 2.5 cm from the top of the page, with three single spaces separating the number from the text.

No punctuation (dashes or periods) is used before or after the page number.

3.5 HEADINGS AND SUBHEADINGS

3.5.1 Decimal Section Numbering System

The decimal system is used to define report sections. Under this system, a whole number is assigned to a main section and decimal subdivisions are assigned to subsections. See example below:

1.
1.1
1.2
2.
3.
3.1
3.1.1
3.1.2
3.1.2.1
3.2

3.5.2 Capitalization, Underscoring, and Placement

Main headings are in uppercase and are underlined.

Second level headings are uppercase but are not underlined.

Third level headings are in upper and lowercase (initial capitals on all words except articles, prepositions, and co-ordinate conjunctions) and are underlined.

Fourth and fifth level headings are lowercase except for initial capitalization of the first word, proper nouns and proper adjectives. These headings are underlined, followed by a period, and run into the text. It is preferred that fifth level headings not be used.

The first word of every heading or subheading is indented 10 spaces; that is, the first character appears in the 11th position from the left margin.

Examples of form and spacing for the five levels of headings are as follows:

1. MAIN OR FIRST LEVEL HEADING

1.1 SECOND LEVEL HEADING

1.1.1 Third Level Heading

1.1.1.1 Fourth level heading. Run into text.

1.1.1.1.1 Fifth level heading. Run into text.

Each main heading should be at the top of a new page. A heading or subheading must always occur on the same page as at least two lines of its text.

3.5.3 Front Material Headings

Headings for front materials (Abstract, Acknowledgements, Table of Contents, etc.) are uppercase, centred, and underlined.

3.6 TABLE OF CONTENTS

The Table of Contents is a listing of contents and the page on which each item or section begins. The listing includes all section headings and subheadings of the report, including the List of Tables, and List of Figures where applicable, and the front material (Declaration or Letter of Transmittal, Abstract, Acknowledgements).

3.6.1 Format

Headings of the preliminary or front material are typed in uppercase and are placed flush with the left-hand margin.

Headings of the report body are listed in sequential order. A sample Table of Contents page is included as Figure 4.

3.6.2 Capitalization

First level headings, including front material headings are always uppercase.

Second, third, and fourth level headings are uppercase and lowercase. Initial capitals are used on all words except articles, prepositions, and co-ordinate conjunctions.

3.6.3 Indentation and Spacing

The number portion of each heading is placed flush with the left-hand margin. Titles of first and second level headings are indented 10 spaces, beginning on the 11th space of the line.

Third and fourth level headings are indented 13 spaces, beginning on the 14th space of the line.

Two single line spaces are left before all main headings, including those of the preliminary sections. A single line space is left after the main heading and all other headings.

3.6.4 Page Numbers

The page number column is located at the right-hand margin. Page numbers are right justified. A line of spaced periods leads from the end of the heading to its page number. Periods are aligned as shown in Figure 4.

3.6.5 Run-on Tables of Contents

The second and subsequent pages of the Table of Contents are titled Table of Contents (Continued) except for the final page which is titled Table of Contents (Concluded).

TABLE OF CONTENTS

		Page
LIST OF TABLES		viii
LIST OF FIGURES		ix
ABSTRACT		xiii
ACKNOWLEDGEMENTS		xiv
1.	INTRODUCTION	1
2.	THE STONEY MOUNTAIN MODEL	6
2.1	Description of the Model	6
2.2	Verification of Results	11
3.	THE MILDRED LAKE MODEL	36
3.1	Description of the Model	36
3.2	Preparation of Input Data	37
3.3	Verification of Results	61
4.	MODEL SENSITIVITY AND APPLICATION OTHER AREAS	74
4.1	General Guidelines for New Applications	75
4.2	Sensitivity Tests	75
4.2.1	Comparison of Sensitivity Tests	76
5.	CONCLUSIONS AND RECOMMENDATIONS	81
6.	REFERENCES CITED	82
7.	LIST OF AOSERP RESEARCH REPORTS	83

Figure 4. Example of Table of Contents page.

3.7 LIST OF TABLES AND FIGURES

3.7.1 Format

The List of Tables and List of Figures is set up similarly to the Table of Contents. A sample List of Tables is presented as Figure 5.

3.7.2 Headings and Captions

The table headings and figure captions should be identical to those appearing over the table or under the figure. If a table heading or figure caption includes both a one-sentence title and one or more sentences of descriptive matter, only the one-sentence title is included in the List of Tables or Figures.

3.7.3 Capitalization

The first letter of each word in the heading or caption is capitalized, except for articles, prepositions, and co-ordinate conjunctions.

3.7.4 Indentation and Spacing

Table or figure numbers are placed against the left margin, but are right justified. The number is followed by a period. The heading or caption is indented four spaces from the left margin.

Two single line spaces separate headings and captions. If a single heading must carry over to a second line, only a single space separates the two portions.

3.7.5 Page Numbers

Page numbers are aligned at the right-hand margin and are right justified. A line of spaced periods leads from the heading or caption to its page number.

LIST OF TABLES

		Page
1.	Cases to which the Stoney Mountain Model was Applied	13
2.	Reported and Stoney Mountain Model Computed Winds at Fort McMurray	34
3.	Reported and Stoney Mountain Model Computed Winds at Stoney Mountain	35
4.	Median of the Absolute Value of the Vector, Speed and Angle Differences between Stoney Mountain Model Computed and Reported Winds	35
5.	Cases to which the Mildred Lake Model was Applied	39
6.	Reported and Mildred Lake Model Computed Winds at Thickwood Hills	68
7.	Reported and Mildred Lake Model Computed Winds at Mildred Lake	69
8.	Reported and Mildred Lake Model Computed Winds at Muskeg Mountain	70
9.	Reported and Mildred Lake Model Computed Winds at Fort McMurray	71
10.	Reported and Mildred Lake Model Computed Winds at Ells ...	72
11.	Reported and Mildred Lake Model Computed Winds at Fort McMurray	73
12.	Median of the Absolute Value of the Vector, Speed, and Angle Differences between Mildred Lake Model Computed and Reported Winds for All Stations	73
13.	Sensitivity of Wind Speed to Changes in Input Data, Computed at Fort McMurray by the Stoney Mountain Model ...	77

Figure 5. Example of List of Tables.

3.8 TABLES AND FIGURES

3.8.1 Placement

All tables and figures (including maps, photos, graphs, etc.) in the body of the report and in the appendices should appear on a separate page rather than being included in the text. Exceptions are permitted for very small tables (less than 5 cm in length, which would fit unobtrusively into the text. The criterion in such cases is appearance. In almost all cases, tables and figures immediately follow the page on which they are first mentioned. Except in special instances, they should not be placed together at the end of the report.

3.8.2 Margins

Margins on tables and figures must be the same as those of the text. Table headings and figure captions must be within the bounds of the space allotted for the text; they must not run into the margin.

If a table or figure is oriented broadside, the top should be on the left side of the page.

3.8.3 Reductions in Size

If necessary, tables or figures may be reduced to allow adequate margin space. Reductions must be made on xerographic equipment capable of producing camera-quality copy. The Publications Office can arrange for table or figure reduction if necessary.

Although reduced-size tables or figures are acceptable, the heading or caption must not be reduced. When reduction is required, it is necessary to type the table heading or figure caption on the page after reduction.

3.8.4 Numbering

Series of figures and tables are each numbered consecutively throughout the report, including those appearing in the Appendices. For example, a report may have tables numbered Table 1, Table 2, Table 3 in addition to figures numbered Figure 1, Figure 2, Figure 3.

3.8.5 Page Number

The page number appears at the top of the page, as in the text, regardless of the placement of the heading or caption or the orientation of the table or figure.

3.8.6 Headings and Captions

The table heading should appear above the table, set against the left margin. See Table 1 for conventions to be used in setting up a table.

The figure caption should appear below the figure, set against the left margin.

The first word of second and subsequent lines of table headings and figure captions is aligned with the first word of the first line, as shown in Table 1.

Table headings and figure captions should contain enough information that they can be understood without reference to the text.

The words Table or Figure are not abbreviated.

3.8.7 Run-on Tables and Figures

Tables and figures should fit on one page if possible; refer to section 3.8.3 for RMD practice regarding reductions.

If a table continues onto more than one page, adhere to the following formatting instructions.

1. Omit the line at the bottom of the page for all but the last page.
2. Place the word "continued . . ." at the bottom right-hand corner of all but the last page.
3. Begin the last page with "Table X. Concluded." and begin all intervening pages (if any) with "Table X. Continued." Place a single line between the heading and the table.
4. Repeat on each page all headings in the body of the table.

Table 1. Sample table showing format. Table headings should be placed at the top of the table, begin at the left margin, and be single spaced; only the first word and proper nouns should be capitalized.[a]

Major Heading	Major Heading		Major Heading		
	Subheading No. 1	Subheading No. 2	Subheading No. 3	Subheading No. 4	
				Sub-heading	Sub-heading[c]
Item One	300 (5)[d]	3.0 ± 0.2	-8 to 10	45.0	ND
Sub-item	1 000 (3)	3.7 ± 1.2	-3 to -2	3.7	8
Sub-item	50 (8)	0.3 ± 0.1	22 to 25	192.3	0
Item Two	100 (18)	0.9 ± 0.2	-3 to 10	3.1	N/A
Total	1 450 (34)	1.5 0.2	-5 to 25	234.1	N/A

[a] Adapted from original table in Doe (1978).

[b] Use the word "to" instead of a dash when a range of figures includes minus signs.

[c] Symbols: ND = No Data (do not use a dash); N/A = Not Applicable; 0 = value of zero.

[d] Number in parentheses is sample size (in this example).

3.8.8 Footnotes

Footnotes within tables are numbered separately for each table. Use superscripted, lowercase Arabic letters, not numbers, for footnotes in tables (e.g., ^{a,b}).

3.8.9 Alignment

Numerical entries in table columns should be carefully aligned, using right-hand justification of whole numbers.

Align the decimal points, ± signs, and the word "to" in a number range, (e.g., 15 to 103). Do not use a dash (-) to indicate numerical ranging.

3.8.10 Credits

If a table has been taken from another source (either published or unpublished), credit should be given to the author in a footnote to the table (see Table 1). The credit may be in one of two forms, as follows:

1. "Source: Doe (1978)." This form is to be used if the table is reproduced in entirety.
2. "Adapted from the original table in Doe (1978)," if the table has been altered in any way.

3.8.11 Legends

When it is necessary to include a legend on a figure to explain symbols or clarify data presentations (such as abbreviations), the legend must be enclosed in a box to set it off from the figure.

3.8.12 Maps

Maps must be accurate, with all locations correctly named and positioned. Names of creeks and rivers should follow the course of the waterway.

Use a bar scale to indicate distance, rather than a word scale. If the map is reduced, the bar scale will receive the same reduction as the map.

Place a north arrow indicator on the map.

3.8.13 Lettering

Lettering on tables, figures, photographs, and maps must be from stencils (Leroy or K & E), Letraset, or a typewriter. Hand lettering or hand drawing on maps or graphs is not acceptable.

3.8.14 Figure Quality

Figures should be submitted as camera-ready copy. Figures must be clear, sharp, legible, black, and of excellent quality for reproduction. Original artwork, PMT or photographic print is preferred; photocopies are generally of unacceptable quality. Size of figures must be consistent with margin restrictions as specified in Section 3.3.1. The Publications Officer will arrange for acceptable reductions if necessary.

3.8.15 Photographs

Photographs should be high quality, black-and-white glossy prints.

Colour printing is expensive and should be avoided when possible. If colour is essential, its use must be approved by the Research Manager. For the best quality reproduction, provide clean, unscratched glossy colour prints with sharp images and good colour. If a photograph was taken by anyone other than the researchers, credit to the photographer must be given in parenthesis at the end of the figure caption, e.g., (photograph by John Doe).

3.9 REFERENCES

3.9.1 References Cited in Text

3.9.1.1 Direct references. When citing a reference in the text of a report, use the Harvard name-and-year system, rather than footnotes or a reference numbering system. The following examples outline RMD recommended practice.

1. When a publication is cited, parentheses are used to enclose the date or the author's name and date of publication, depending on the sentence structure.

   e.g., Dawson (1970) stated that . . .;
   or bird behaviour has been reported (Dawson 1970) . . .

   Note that a comma is not used to separate the author's name from the date when both are enclosed in parentheses. Commas are, however, used to separate dates from each other.
2. A single author's publications of different years are cited thus: Dawson (1976, 1978) . . . .
3. A single author with more than one publication cited in a single year is handled thus: Dawson (1976a, 1976b) . . . .
4. The names of multiple authors of a single paper are enclosed in parentheses, together with the year of publication: (Dawson and Derwent 1980) for two or three authors, (Dawson et al. 1975) if more than three authors.
5. Several authors cited simultaneously are referenced as follows: (Brooks and Bracken 1975; Doe 1964a; Smith 1971).

   Entries are arranged alphabetically by author, and then chronologically when author(s) of two or more entries are the same.
6. Citation of a direct quote or a specific point can be given as (Smith 1972:123), to indicate the page from which the quote is taken.

3.9.1.2 Secondary references. If reference is made in the text to information from a paper that was not read in the original, indicate this fact in the citation as follows: Bradt (1938, cited by Gibson 1957). In this instance, only the paper by Gibson (1957) was read

although material from Bradt (1938) was used. See Section 3.9.2.13 for correct bibliographic citation.

3.9.1.3 Personal communications. Citation of personal communications should be handled in the text; they should not appear in the References Cited section. When reference is made to information from a personal communication, give the nature and date of the communication and the name and identity or address of the communicator in parentheses in the text, not in a footnote. For example:

> Residents of the town seldom hunted in the region to the east of the river (letter dated 1977 November 12 from John Doe, Fish and Wildlife Officer, Newtown, Alberta)

or

> John Doe (Fish and Wildlife Officer, Newtown, Alberta; letter dated 1977 November 12) stated that the residents of the town seldom hunted in the region to the east of the river.

3.9.2 References Cited

The References Cited section must include all published and unpublished material (excluding personal communications) cited in the text. If you wish to list additional references not cited in the text or further reading material, this section is to be entitled References. List entries alphabetically; additional entries for a specific author are chronologically listed. Do not use abbreviations such as op. cit. or ibid.; list the author's name fully for each citation.

Bibliographic references must be clear and complete, to enable retrieval by others who may wish to obtain the document. Examples of the standard format for bibliographic citations of various types of publications are shown in the following sections. Material that is in preparation is noted as "in prep."; if it will not be published, it is listed as "unpublished report prep. for . . . ."

In general, a complete journal bibliographic entry requires:

1. Name(s) of authors(s);
2. Year of publication;
3. Title of article, only first word and proper nouns are capitalized;
4. Name of journal (do not abbreviate), complete with volume, issue, and page numbers.

An entry for a book requires:

1. Name(s) of author(s);
2. Year of publication;
3. Title of book, only first word and proper nouns are capitalized;
4. City of publication and name of publisher;
5. Number of pages in the book.

3.9.2.1 Government publications. Materials published by government departments are often the most difficult to cite clearly. In addition to the required elements listed above, a few more items of information will clarify the citation. Elements of importance in government document citations include: name of government (Canada, Great Britain, Alberta), department (Environment, Energy and Natural Resources), and series name and number (if applicable). Issuing agency, if different from originating agency, may also be included. For example, many Canadian federal government reports are available only through Supply and Services Canada; this agency assigns a catalogue number to each publication for easy reference. Most US government reports (both federal and state) are available through the National Technical Information Service (NTIS) and can be obtained by ordering the NTIS-assigned document number.

If a publication has a personal author, it is preferable to include it in the reference list under that author, including the corporate agency in the citation.

Examples:

Alberta. Environment. 1973. Athabasca tar sands area: Wildlife. Edmonton. 15 pp.

Canada. Environment. 1973. Canadian normals. Volume I: temperature, 1941-70. Downsview, Ontario. 54 pp.

Rusch, D.H., L.B. Keith, and E.C. Meslow. 1971. Natural vegetation communities near Rochester, Alberta. Alberta Wildlife Technical Bulletin 4. Edmonton: Alberta Energy and Natural Resources. 22 pp.

Simmons, W.R., J.W. Westcott, and F.F. Hall, Jr. 1971. Acoustic echo sounding as related to air pollution in urban environments. US Department of Commerce. NOAA Technical Report ERL 216-WPL 17. 77 pp. (Available from NTIS, report No. AW 315/987.)

3.9.2.2 Author unknown

Anonymous. 1959. Conference on co-ordination of fisheries regulations between Canada and the United States. Summary of procedures. 1959 April 21-24; Vancouver, B.C. 201 pp.

3.9.2.3 Books

Odum, E.P. 1971. Fundamentals of ecology, 3rd ed. Toronto: W.B. Saunders Co. 575 pp.

Hickey, J.J., ed. 1969. Peregrine falcon populations: their biology and decline. Madison, Wisconsin: University of Wisconsin, Press. 596 pp.

Korschgen, L.J. 1967. Feeding habits and foods. The wild turkey and its management, ed. O.H. Hewitt. Washington, DC: The Wildlife Society. 589 pp.

3.9.2.4 Journals

Hudson, P. and L.G. Browman. 1959. Embryonic and fetal development of the mule deer. Journal of Wildlife Management 23(3):295-304.

3.9.2.5 Proceedings and transactions

Sauer, E.F. 1963. Migration habits of golden plovers. Proceedings of the International Ornithological Congress. 1963 September 15-20; Washington, D.C.; 13:454-467.

Buller, R.J. and E.L. Boeker. 1965. Coordinated sandhill crane study in the Central Flyway. Transactions of the North American Wildlife Natural Resources Conference. 1965 August 16-18; Edmonton, Alberta; 30:100-112.

3.9.2.6 Theses

Bailey, A.W. 1963. Characterization of selected plant communities within the Tillamook Burn in northwestern Oregon. Eugene, OR: Oregon State University. 117 pp. M.Sc. Thesis.

Bakuzis, E.V. 1959. Synecological coordinates in forest classification and in reproduction studies. Minneapolis, MINN: University of Minnesota. 242 pp. Ph.D. Thesis. Available from University Microfilms, Ann Arbor, MI.

3.9.2.7 Author with more than one article in one year

McLaren, I.A. 1967a. Introduction to biological studies of Ogac Lake, a landlocked fiord on Baffin Island. Journal of the Fisheries Resource Board of Canada 24:975-980.

McLaren, I.A. 1967b. Physical and chemical characteristics of Ogac Lake, a landlocked fiord on Baffin Island. Journal of the Fisheries Resource Board of Canada 24:981-1015.

3.9.2.8 Abstract only

Hilderbrandt, A.C. 1948. Influence of some carbon compounds on growth of plant tissue cultures in vitro. Anatomical Record 100:674. (Abstract).

3.9.2.9 Corporate reports

Renewable Resources Consulting Services Ltd. 1974. Fisheries investigations of the Muskeg River and Hartley Creek. Prep. for Shell Oil Ltd. and Home Oil Ltd. Calgary, Alberta. 127 pp.

Penner, D.F. 1976. Peace River sites C and E, environmental impact studies: wildlife resource. Prep. for Thurber Consultants Ltd. by Renewable Resources Consulting Services Ltd. Edmonton, Alberta. 307 pp.

3.9.2.10 AOSERP reports

(AOSERP reports are considered "in prep." until they are published by the Research Management Division):

Bond, W.A. and K. Machniak. 1977. Interim report on an intensive study of the fish fauna of the Muskeg River watershed of northeastern Alberta. Prep. for the Alberta Oil Sands Environmental Research Program by Fisheries and Marine Service Canada. AOSERP Report 26. Edmonton, Alberta. 137 pp.

Fanaki, F., comp. In prep. Meteorology and air quality in the Alberta Oil Sands Environmental Research Program study area, March 1976. Prep. for Alberta Oil Sands Environmental Research Program by Fisheries and Environment Canada, Atmospheric Environment Service. Project ME 1.5.1. Edmonton, Alberta.

3.9.2.11 Foreign language and translated reports

Barbashova, A.I. 1966. Adaptive changes in oxygen transport in the blood, cellular plasma, and mitochondria. NASA TT F-420:16-18. (Translated from Russian).

Gavrilov, K.A. and T.S. Perel. 1958. Earthworms and other invertebrates in the soil under forests in the Vologda region. Pochvovedenie 58 (8):133-140. (In Russian).

3.9.2.12 Multiple authors

Smith, A.B. and J.W. Jones. 1972. The distribution of the grey wolf in Alberta. Canadian Journal of Zoology 66:101-107.

3.9.2.13 Citation of article not available to author

Fuller, W.A. and D.R. Flook. 1951. Report on aerial survey of beaver in the Fort Providence registered trapping areas, October. Canadian Wildlife Service, Ottawa. 17 pp. (Original not seen; information taken from Fuller, 1953).

Note: If this type of reference is used, ensure that the cited article is included in the reference list. The following citation is the one to which the original reference refers; it should be placed in normal alphabetical sequence within the References Cited listing.

Fuller, W.A. 1953. Aerial surveys for beaver in the Mackenzie District, N.W.T. North American Wildlife Conference Transactions. 1953 June 03-07; Toronto, Ontario; 18:329-335.

3.10 APPENDICES

If an appendix consists of tables or figures without an accompanying text, the section headings and an explanatory sentence should appear on a page preceding the first table or figure. For example:

9. APPENDICES

9.1 LIVE-TRAPPING DATA

The tag number, date of capture or recapture, age, sex, and habitat type for each small mammal live-trapped are presented for each species in Tables 12 to 16.

4. GENERAL STYLE CONVENTIONS

4.1 TERMINOLOGY

4.1.1 Oil Sands

Use the term oil sands, not tar sands or bituminous sands. Alberta oil sands is an acceptable term; it is a general term which encompasses the Athabasca, Wabasca, Cold Lake, and Peace River oil sands deposits. The term Athabasca oil sands is to be used when referring to the Athabasca portion of the oil sands.

4.1.2 Abbreviations and Acronyms

Abbreviations and acronyms should be spelled out the first time they are encountered in a report; they may be abbreviated for subsequent use.

An exception to this general rule applies to proper names, such as Fort MacKay and Fort McMurray. It is not acceptable to abbreviate these names to Ft. MacKay or Ft. McMurray.

Many abbreviations for long or complex names of organic compounds are acceptable, such as DNA for deoxyribonucleic acid. A list of these acceptable abbreviations is found in the Council of Biology Editors Style Manual (1978), Chapter 10.

The Alberta Oil Sands Environmental Research Program can be referred to as AOSERP after its first mention in the text. Spell out the name of the program at its first mention and place the acronym in parentheses immediately following it. Do not combine parts of an acronym with words (e.g., the AOSER program). This same rule applies to the use of all acronyms.

4.1.3 Use of Italics

4.1.3.1 Scientific terms. The correct use of Latin when referring to plant or animal species has been standardized; refer to the Council of Biology Editors Style Manual (1978) for details.

In general, the rules regarding nomenclature specify the standardization authority, the form for typed or printed names, acceptable abbreviations, and use of common names.

Italics are used in typing genus and species names. The generic name must be spelled out at its first use and may be subsequently abbreviated. If the term is the first word in a sentence, it may not be abbreviated. The abbreviations sp. or spp. are acceptable when used in conjunction with a generic name. For example, Salix spp. is acceptable.

4.1.3.2 Foreign language terms. Commonly used foreign language phrases such as a priori, et al., and i.e. are now considered part of the English language and are not italized. The recommended dictionary does not indicate italics use; if in doubt, use roman rather than italic type.

4.1.4 Time and Calendar Dates

The conversion to the International System of Units (SI) in Canada necessitates certain changes in written expressions of time and date.

Time is now expressed on a 24-hour clock basis (i.e., use 0900 and 2330, instead of 9:00 a.m. and 11:30 p.m.). Where applicable, state the time zone to which the numbers refer. Abbreviations are acceptable after the first use, such as Mountain Standard Time (MST) or Mountain Daylight Time (MDT).

Under standard metric rules of practice, calendar dates should be stated year-month-day, as in 1982-01-06 or 1982 January 06.

4.1.5 Numbers

In most cases, use words rather than numerals for single-digit terms (i.e., one through nine). In a series containing some numbers smaller than 10 and some greater than 10, use numerals (e.g., 7 apple trees, 9 peach trees, and 29 saskatoon bushes).

Numbers consisting of two to four digits are written without spaces or commas (1000 or 2568). For numbers greater than four digits leave one space to separate each group of three digits (12 000 or 1 000 000).

A standard unit of measure is preceded by a numeral (3 mm, 25 km).

Always express percentages with a numeral, in combination with either the symbol (%) or the word, (27%, 9% or 13 percent).

In all cases, however, do not begin a sentence with a numeral. Spell out the numeral, reword the sentence, or end the preceding sentence with a semicolon.

4.2 CAPITALIZATION

Initial capitals are used with proper nouns (Edmonton, Ottawa) and adjectives based on proper nouns (Dark Ages, White House). The following list outlines accepted use of initial capitals; for further details, refer to the Council of Biology Editors Style Manual (1978) and A Manual of Style, 12th ed. (1969);

1. Proprietary names of drugs and equipment (e.g., Fisher Spectograph Model 300-4).
2. The scientific name of phylum, order, class, family or genus, but not of a specific or subspecific taxon.
3. Titles of books, periodicals, and journal articles, except in the References Cited report section where the first word only is capitalized.
4. Names of tests or processes as they were originally published.
5. Names of specific universities or government departments (e.g., University of Alberta, Alberta Environment).
6. Specific numerical variables (e.g., Day 52, Sample 15, Stand 9).
7. Complete common names of birds in accordance with the checklist of the American Ornithologists' Union.

8. The common name of an insect when in accordance with the list approved by the Entomological Society of America.

4.3 SPELLING AND PUNCTUATION

4.3.1 Spelling

Although in Canada we use American rather than British terminology (e.g., gas or gasoline rather than petrol), British word spelling is the accepted style (e.g., colour not color, co-operate not cooperate).

The Research Management Division follows the spelling of words used in The Shorter Oxford English Dictionary on Historical Principles (1977).

A short list of preferred spelling variations is included as Appendix 6.1.

4.3.2 Punctuation

The Council of Biology Editors Style Manual (1978), Chapter 8, outlines acceptable use of punctuation marks. The following specific uses should be noted:

1. Do not use a period with the capital letter abbreviation of the formal name of the United States, an international agency, or a compass direction (e.g., US, USSR, UNESCO, NE).
2. Abbreviations for "that is," "for example," or "and others" are followed by a comma (i.e., e.g., et al.,).
3. A comma precedes the "and" or "or" in a listing of more than two items (beans, peas, and corn).

4.4 ENUMERATION WITHIN THE TEXT

The enumeration of a series of items within a sentence must have parallel construction. The following example from the Council of Biology Editors Style Manual (1978) illustrates the use of parallelism.

1. Incorrect construction:

   The mixture was heated, shaken, centrifuged, and the supernatant fluid frozen.

2. Correct construction:

   The mixture was heated, shaken, and centrifuged; the supernatant fluid was frozen.

The elements in a series may be kept in order with correct punctuation; with indicative words such as and, then, when, afterward, and finally; or with numerals or letters. The enumeration of a simple numbered series may occur within a sentence, as follows: (1) number each element with a number enclosed in parentheses; (2) punctuate between elements with a comma for a simple series, or a semicolon for a more complex series; (3) do not capitalize the first word of each element.

More complex enumerations can be set off from the text in point form, using the following rules:

1. Indent each element 10 spaces, and align the lines within each element as shown here.
2. Begin each point with a number followed by a period, not enclosed in parentheses.
3. Use normal (one- and one-half line) spacing, not single spacing, within each element of the enumeration.
4. Capitalize the first word of each element.
5. Use a period at the end of the individual elements which comprise complete sentences; otherwise use a semicolon, with a period after the final element.

4.5 FOOTNOTES

Footnotes should be used sparingly. It is preferable to incorporate reference to the text of a publication directly into the report. See Section 3.9.1.1 for further details on direct quotations.

If footnotes must be used, indicate footnoted material with a superscript in the text, immediately after the specific reference. Superscript numbers are sequential on individual pages only; they do not carry one number sequence throughout the report.

Place each footnote at the bottom of the page on which the footnoted material refers, and separate it from the text by a normal (one- and one-half line) space, followed by a line 15 characters long.[1]

[1] This is an example of a footnote. Sentence style and construction is the same as that within the text.

4.6 CHEMICAL FORMULAS

The Handbook of Chemistry and Physics (1974) or The Merck Index (1976) are the reference materials to be used for confirmation of chemical symbols and formulas used as shorthand designations (e.g., Mg, CO_2, C_2H_5OH).

When naming a salt, use its simplest formula (e.g., Na_2, SO_4, $FeCl_3$).

Indicate ionic state by adding symbols for the charge (Mg^{2+}, SO_4^{2-}, H^+, Cl^-).

For formulas which are too complex to be typewritten, the molecular structure of the compound should be drawn.

4.7 MATHEMATICAL FORMULAS AND EQUATIONS

Use the simplest form of equation. A bar fraction (cross-rule) is acceptable in a centred equation; a slant line (e.g., /) is preferred for use within the text. The following examples denote unacceptable and recommended mathematical equation forms.

1. One-line fraction: use $\frac{1}{2}(a+b)$ not $\frac{a+b}{2}$

2. Fractional exponent: use $a(bc)^{\frac{1}{2}}$ not $a\sqrt{bc}$

3. Slant line: use $(a+b)/(x+y)$ not $\frac{a+b}{x+y}$

4.8 METRIC (SI) NUMBERS AND UNITS OF MEASURE

The metric system for measurements and weights has been used by the scientific community for many years. The International System of Units (SI) was adopted by Canada in 1971; it is to be used in all RMD reports.

The system includes three classes of units which together form the SI unit system: (1) base units, (2) supplementary units, and (3) derived units. Tables 2 to 4 display these three unit levels. Table 5 contains information relevant to other units permitted in the SI system, and Table 6 lists commonly-used SI prefixes. These tables have been excerpted from How to Write SI (1978).

Further information on correct use of SI symbols is to be found in Appendix 6.3.

Table 2. SI base units[a]

Quantity	Name of Unit	Symbol
length	metre	m
mass	kilogram	kg
time	second	s
electric current	ampere	A
thermodynamic temperature	kelvin	K
amount of substance	mole	mol
luminous intensity	candela	cd

[a] SI is founded on seven base units: metre for length, kilogram for mass, second for time, ampere for electric current, kelvin for thermodynamic temperature, mole for amount of substance and candela for luminous intensity.

Table 3. SI supplementary units.

Quantity	Name of Unit	Symbol
plane angle	radian	rad
solid angle	steradian	sr

Table 4. SI derived units with special names.[a]

Quantity	Name	Symbol	Equivalent to
force	newton	N	kg m/s^2
pressure	pascal	Pa	N/m^2
work, energy, quantity of heat	joule	J	N·m
power, heat flow rate	watt	W	J/s
quantity of electricity	coulomb	C	A s
electric potential	volt	V	W/A
electric resistance	ohm		V/A
conductance	siemens	S	A/V
electric capacitance	farad	F	C/V
magnetic flux	weber	Wb	V s
inductance	henry	H	Wb/A
magnetic flux density	tesla	T	Wb/m^2
frequency	hertz	Hz	s^{-1}
luminous flux	lumen	lm	cd sr
illuminance	lux	lx	lm/m^2

[a] Derived units are formed with base and/or supplementary units. In symbolic form they are expressed algebraically using the SI symbols with multiplication and/or division signs. For example, the derived unit for area is square metre (symbol m^2); for density, kilogram per cubic metre (kg/m^3); for angular velocity, radian per second (rads/s).
Some derived units have special names and symbols.
SI base units, supplementary units and derived units--but not their multiples and submultiples--form a "coherent" system of units.

Table 5. Some units permitted for use with SI.[a]

Quantity	Name	Symbol.	Value in SI units
time	minute	min	1 min = 60 s
	hour	h	1 h = 3600 s
	day	d	1 d = 86 400 s
	year	a	1 a = 31 536 000 s
plane angle	degree	°	$1^\circ = (\pi/180)$ rad
	minute	'	$1' = (\pi/10\,800)$ rad
	second	"	$1'' = (\pi/648\,000)$ m^2
area	hectare	ha	1 ha = 1 hm^2 = 10 000 m^2
volume	litre[b]	L	1 L = 1 dm^3
temperature	degree Celcius[c]	°C	An interval of $1^\circ C$ = 1 K
			By definition $0^\circ C$
			= 273.15 K
mass	tonne	t	1 t = 1000 kg = 1 Mg

[a] These other units outside SI are also recognized for use with SI because of their practical importance.

[b] For litre the international symbol and also the ℓ previously used in Canada will still be encountered for some years. The ℓ should be phased out as opportunity permits and should not be used after December 1980.

[c] The Celsius temperature scale, known as Centigrade prior to 1948, is named after the Swedish astronomer and physicist Anders Celsius (1701-1744), to avoid confusion with an an angular measurement "centigrade."

Table 6. Some common SI prefixes.

Prefix	Symbol	Multiplication Factor	Exponent
mega	M	1 000 000	10^6
kilo	k	1 000	10^3
hecto	h	100	10^2
deca	da	10	10^1
unit	-	1	10^0
deci	d	0.1	10^{-1}
centi	c	0.01	10^{-2}
milli	m	0.001	10^{-3}
micro	μ	0.000 001	10^{-6}
nano	n	0.000 000 0001	10^{-9}

[a] Decimal multiples and submultiples of SI units can be expressed by adding prefixes to the unit names. The prefix is directly attached to the unit name to form a new unit name, written as one word. The prefix symbol is directly attached to the unit symbol to form a new unit symbol. Examples: km for kilometre, mm for millimetre; mL for millilitre; 0.000 000 006 gram (6×10^{-9} g) = 6 ng (nanograms).

5. RECOMMENDED REFERENCES

Canada. Consumer and Corporate Affairs. Bureau of Intellectual Property. 1975. Copyright questions and answers (Le droit d'auteur; questions et responses). Ottawa: Information Canada. 16 pp.

Canada. Metric Commission. 1978. How to write SI. Ottawa. 8 pp. (Available from Supply and Services Canada, Catalogue No. ME 31-3/1978.)

Canadian Standards Association. 1976. Canadian metric practice guide. National Standard of Canada CAN 3-Z 234.1-76. Rexdale, Ontario: Canadian Standards Association. 48 pp.

Council of Biology Editors. Style Manual Committee. 1978. Council of Biology Editors Style Manual, 4th ed. Arlington, VA: American Institute of Biological Sciences. 265 pp.

Leslie, L.A. 1972. 20,000 words. New York: McGraw-Hill. 282 pp.

A manual of style, 12th ed. rev. 1969. Chicago: University of Chicago Press. 546 pp.

Messenger, W.E. and J. de Bruyn. 1980. The Canadian writer's handbook. Scarborough, Ontario: Prentice-Hall of Canada Ltd. 519 pp.

The shorter Oxford English dictionary on historical principles. 3rd ed. Oxford, Great Britain: Oxford University Press. 2 vols. 2672 pp.

Weast, R.C., ed. 1974. Handbook of chemistry and physics, 55th ed. Cleveland, Ohio: CRC Press. 1 vol.

Windholz, M., ed. 1976. The Merck index, 9th ed. Rahway, New Jersey: Merck and Co. 1 vol.

6. APPENDICES

6.1 WORDS WORTH WATCHING

As mentioned in Section 4.2, RMD uses the Shorter Oxford English Dictionary on Historical Principles (1977) for selection of preferred spellings. Here are a number of words often confused, misused, or misspelled:

acknowledgement NOT acknowledgment
advice (noun)
advise (verb)
affect, effect
analyse NOT analyze
AOSERP study area NOT Athabasca Oil Sands Area
appendices NOT appendixes
assure, ensure, insure
behaviour NOT behavior
centre NOT center
colour NOT color
co-operate NOT cooperate
data are NOT is
dyke NOT dike
farther - implies distance
further - implies something in greater depth of intensity
favour NOT favor
fulfil NOT fulfill
grey NOT gray
judgement NOT judgment
labour NOT labor; Alberta Labour, Canada Department of Labour
liable - definite connotation of legal responsibility
likely - signifies probability
oil sands NOT tar sands
practice (noun)
practise (verb)
sulphur NOT sulfur
a priori NOT *a priori*
in situ NOT *in situ*
in vitro NOT *in vitro*

6.2 COMMON ERRORS AND PHRASES TO AVOID

The following comments and lists are intended to aid authors in writing reports that are clear, that are not verbose, and that will hold the reader's attention. Chapter 10 of the Council of Biology Editors Style Manual (1978) contains further details on technical writing.

1. It is customary in scientific writing to avoid using the first person, e.g., I or we.
2. Sentence structure should be simple and direct.
3. Ensure that subject and predicate agree (e.g., the group is, . . . not the group are; . . .; data are, not data is; media are, not media is).
4. Avoid excess verbiage. The following examples provide alternatives to commonly used, but lengthy, phrases.

Verbose	Simpler
a number of	many
at this point in time	now
due to the fact that	because
in order to	to
in view of the fact that	because
prior to (in time)	before
the treatment having been performed	after treatment

6.3 SPECIAL HINTS FOR TYPISTS

6.3.1 Sentence Placement

A minimum of two lines in a paragraph are to be placed at either the end of one page or the beginning of another page. Do not place a single line of a paragraph at the end of a page or start a page with only the last line of a paragraph.

6.3.2 Hyphenation

1. Words of six letters or less should not be hyphenated.
2. Proper names should not be hyphenated.
3. Do not hyphenate after short prefixes (e.g., ac, de, ex, un, etc.), or before short suffixes (e.g., ly, ed, er, ing, etc.).
4. Do not hyphenate the last word in more than two consecutive lines.

5. Neither the last word on a page nor the last word of a paragraph should be hyphenated.
6. If the last word in a line contains an imbedded hyphen (such as micro-invertebrates), do not further hyphenate that word; instead, either make the break at normal hyphenation or put the whole word on the next line. For example, micro-invertebrates NOT micro-inverte-brates.

   If in doubt, refer to the dictionary, or to the publication 20,000 Words (1972).
7. Hyphens should only be placed between complete syllables.

6.3.3 Abbreviations, Acronyms, Initials

1. A sentence should not begin with an abbreviation or acronym.
2. A person's initials should always be placed on the same line as the surname (e.g., R.G. McDonnell).

6.3.4 Numbers, Symbols, Equations

1. Numbers of four digits or less have neither a space nor a comma (e.g., 1000, 2145); a five digit or greater number has a space separating each group of three (e.g., 1 000 000 or 257 822 976).
2. Spell out numbers one through nine. Use digits to express numbers 10 or greater, except when expressing a series containing both small and large numbers (e.g., 7 dogs, 14 cats, and 5 monkeys).
3. Units of measure are expressed numerically (e.g., 2 mm not two mm). Such a number and symbol which belong together should not be split onto two lines of type.
4. An equation should not be carried over onto a second line unless it is longer than one complete line. For example, do not split an equation such as (a+b) = (b+c)

5. Use the word "to" between numbers expressing a range, rather than a dash (e.g., 13 to 17 km NOT 13-17 km). This rule is true for numerical ranges both in the text and tables.
6. Except at the beginning of a sentence, percentages should be written as numbers, not spelled out, even when the number is less than 10. The word "percent" or the symbol (%) may be used (e.g., 7% or 7 percent).
7. Use a zero before the decimal marker in numerical values less than one (e.g., 0.45 g NOT .45 g).

6.3.5 Punctuation

1. A comma is used to separate a simple series of more than two items or sections; a comma is also placed before the "and" or "or" preceding the last item in the series (e.g., . . . spruce, elm, and pine . . .).
2. A semicolon is used to separate elements in a complex series, where the elements contain internal punctuation (e.g., No physician was available; however, the patient recovered.)
3. When parentheses are used, the final period is placed outside the end parenthesis, unless the entire sentence is parenthetical. If so, the period is placed inside the end parenthesis.

   e.g., The first rat died (the one who had refused to eat).

   The first rat died. (The one who had refused to eat.)
4. Use of punctuation marks in a reference citation is similar to punctuation use in normal sentence structure. That is, a period is used at the end of a complete item of information (such as at the end of a title); a comma is used as a partial break such as at inversion of the

author's surname (Lowry, J.T.). Refer to Sections 3.9.2.1 to 3.9.2.13 for further details in listing references.

5. Place quotation marks outside of a comma or period, but inside of a colon or semicolon.

6.3.6 Metric Symbols

1. Symbols are written in lowercase, except when the unit name is derived from a proper name (e.g., m for metre, s for second, but A for Ampere, C for Celsius). The exception to this rule is L for litre.
2. A space is left between a number and its symbol (25 L). No space is placed between a prefix symbol and the unit symbol (25 mL, 62 kg).
3. Symbols are never pluralized (e.g., 45 gm, NOT 45 gms).
4. Names and symbols should not be mixed (e.g., N.m or newton metre, NOT N metre or newton M).
5. Use a period after a symbol only at the end of a sentence.
6. Symbols should be used in conjunction with numerals instead of writing out the unit names (e.g., area of soil examined is 16 m^2, NOT 16 square metres). When no numerals are involved, unit names should be written out (e.g., the flood covered many square metres).
7. The product of two or more units in symbolic form is indicated by a dot, with the dot preferably placed above the line (e.g., $kg \cdot m \cdot s^2$).

6.4 Editing Marks Used by Publications Officer

Table 7 illustrates the marks used by the Publications Officer in editing reports.

Table 7. Editing marks used by Publications Officer.

Instruction	Mark	Change from:	Change to:
Align vertically	|	The book was lost in the room.	The book was lost in the room.
Align horizontally	=	r^e d book	red book
Transpose	∼	the book red red	the red book red
Spell out		the 2 books	the two books
Lower case	lc /	the Green book	the green book
Capitalize	≡	the green book	the Green Book
Underline or italicize	___	Homo sapiens	Homo sapiens *Homo sapiens*
Retype or insert as superscript	^	the book 2 the book	the book^2
Retye as subscript	v	H2O	H_2O
Insert substitute:			
period	⊙	Read the book⊙ Read the book,⊙	Read the book. Read the book.
comma	,	red, white and blue	red, white, and blue
semi-colon	;	Think, then decide.	Think; then decide.
colon	:	List⊙	List:
hyphen	=	up and down career	up-and-down career.
apostrophe	'	Mary's lamb	Mary's lamb
double quotes	" "	He said book.	He said "book."
single quotes	' '	"Don't cry Fire!"	"Don't cry 'Fire'!"
parentheses	( )	the book (red)	the book (red)
brackets	[ ]	[the book (red)]	[the book (red)]

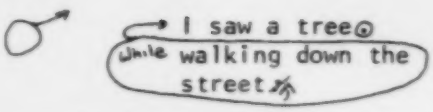
continued ...

Table 7. Continued.

Instruction	Mark	Change from:	Change to:
slant line	/^	5 m/s	5 m/s
insert letter	a^	bred	bread
insert dash	(--)	red not blue book	red--not blue--book
delete	~	blackk	black
	~	blackk	black
	~	black book	black
close up	( )	the bo ok	the book
delete and close up	(~)	blacck	black
restore deletion	stet	the ~~red~~ book	the red book
insert in line	red^	the book	the red book
substitute in line	red / ~	the ~~black~~ book the book	the red book the book
insert space in line	/#	thebook	the book
blank line between lines	lr/l→	the book lr/l→ was red	the book was red
remove space between line	( )	the book ( ) was red	the book was red
begin new paragraphs	¶	The red book was lost. ¶ The green book was found.	The red book was lost. The green book was found.
run paragraphs together	⌒	The red book was lost.⌒ The green book was found.	The red book was lost. The green book was found.

continued ...

Table 7. Concluded.

Instruction	Mark	Change from:	Change to:
move to the left		red book green book	red book green book
move to the right		red book green book	red book green book
centre		the book the book the book	the book the book the book
move up		the book	the book
move down		the book	the book
insert ellipsis		the book	the . . . book
move section as indicated		I saw a tree while walking down the street	While walking down the street, I saw a tree.